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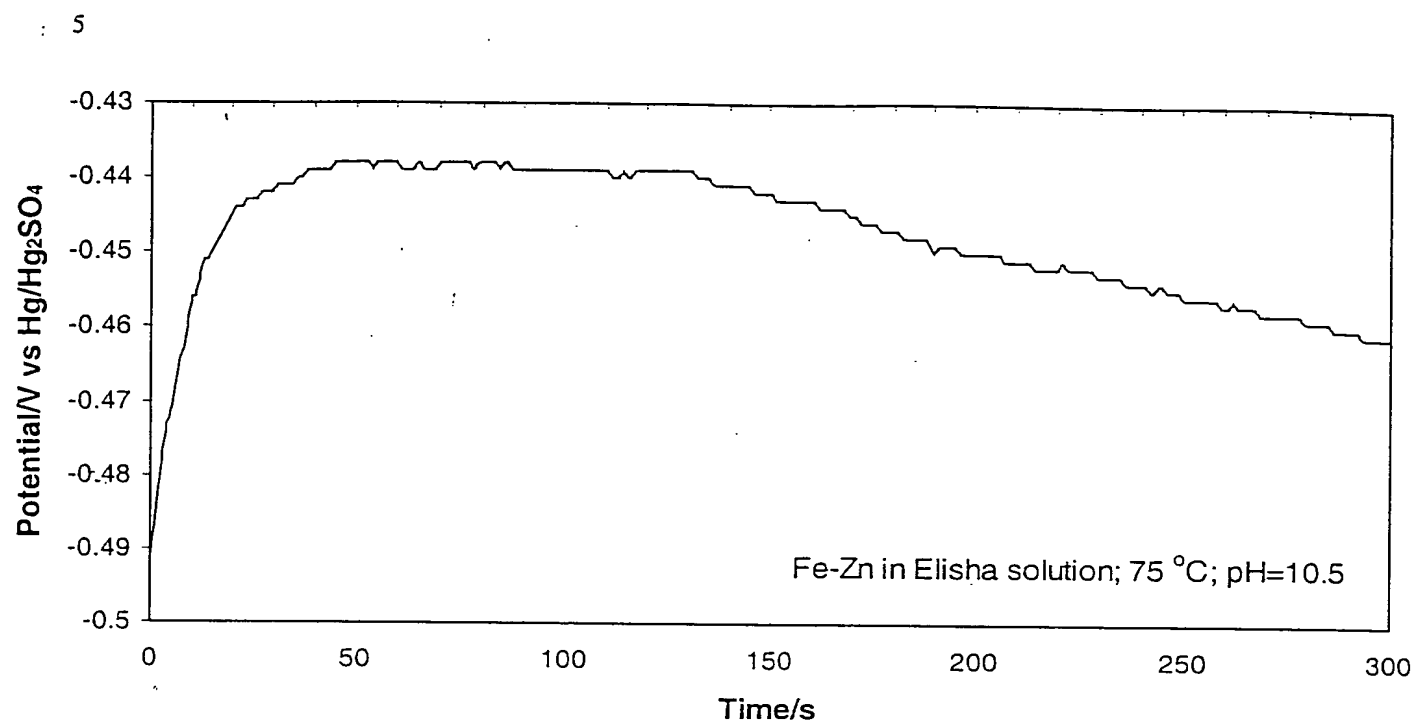


Figure 1: Open Circuit potential

10

15

20

25

30

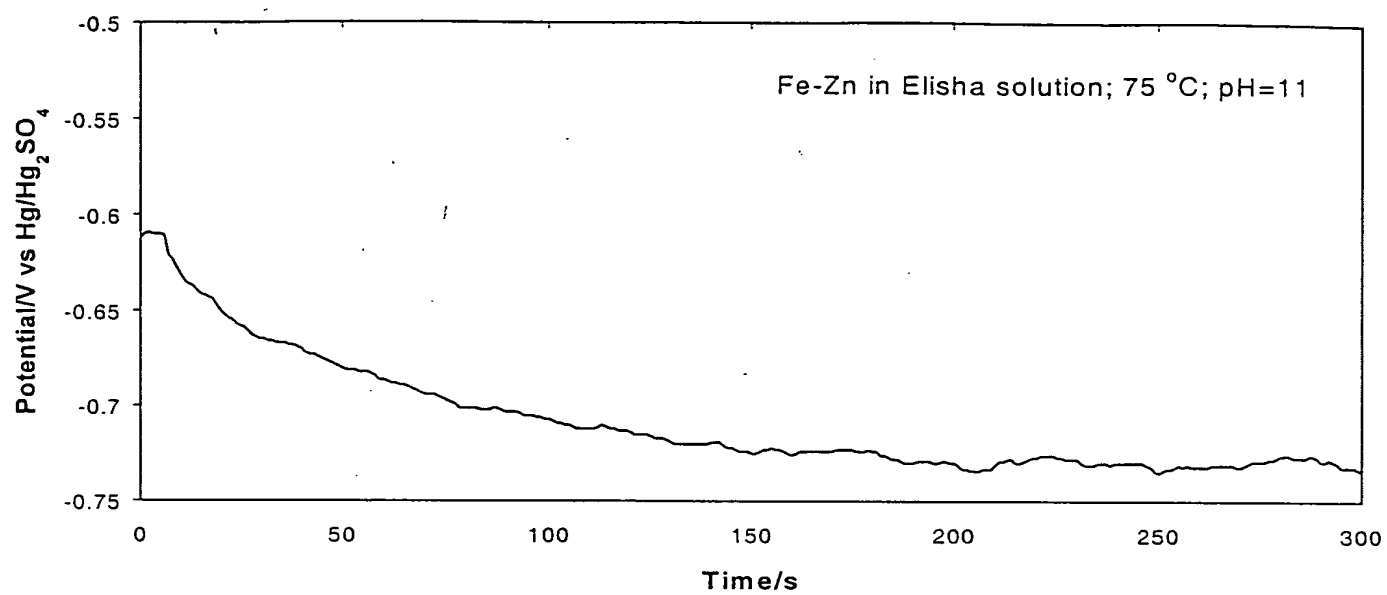


Figure 2: Open Circuit Potential

5

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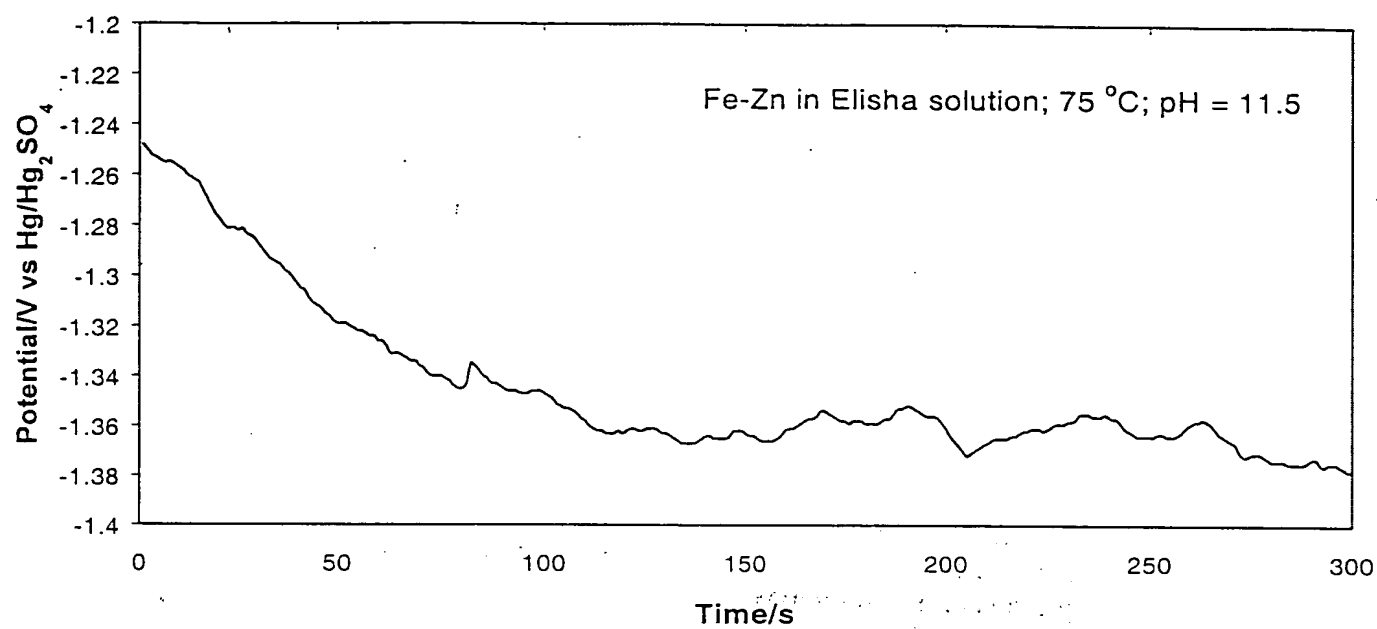


Figure 3: Open Circuit Potential

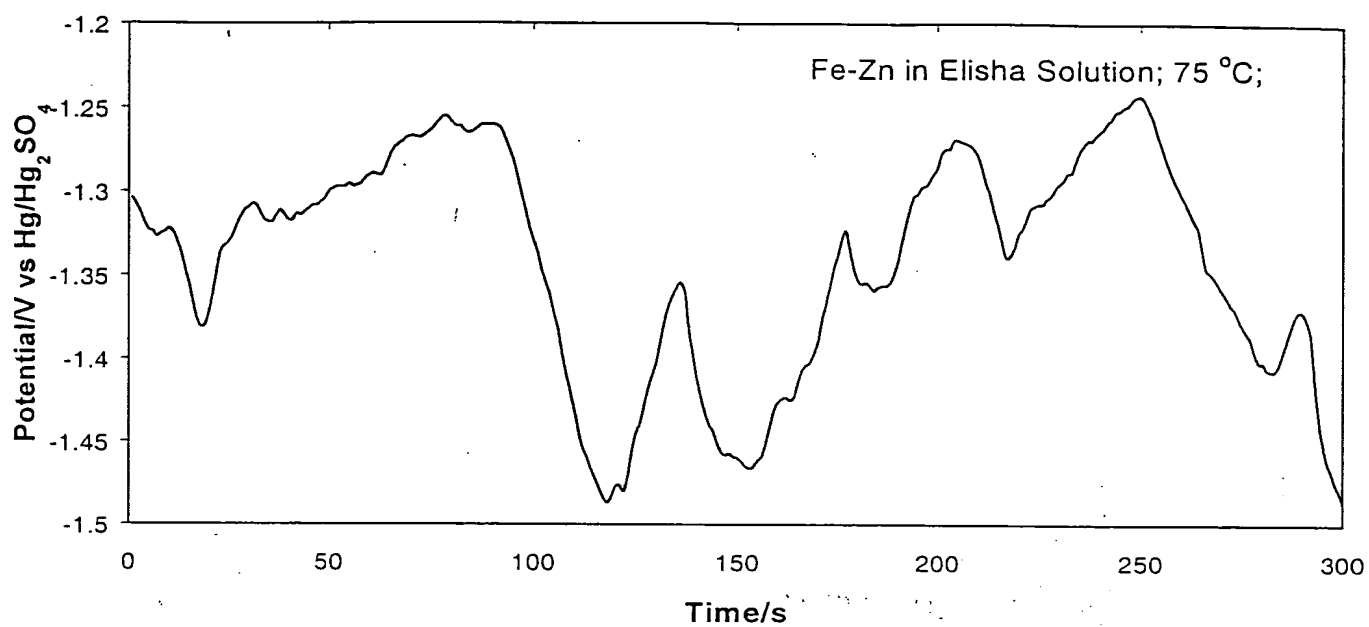


Figure 4: Open Circuit Potential

5

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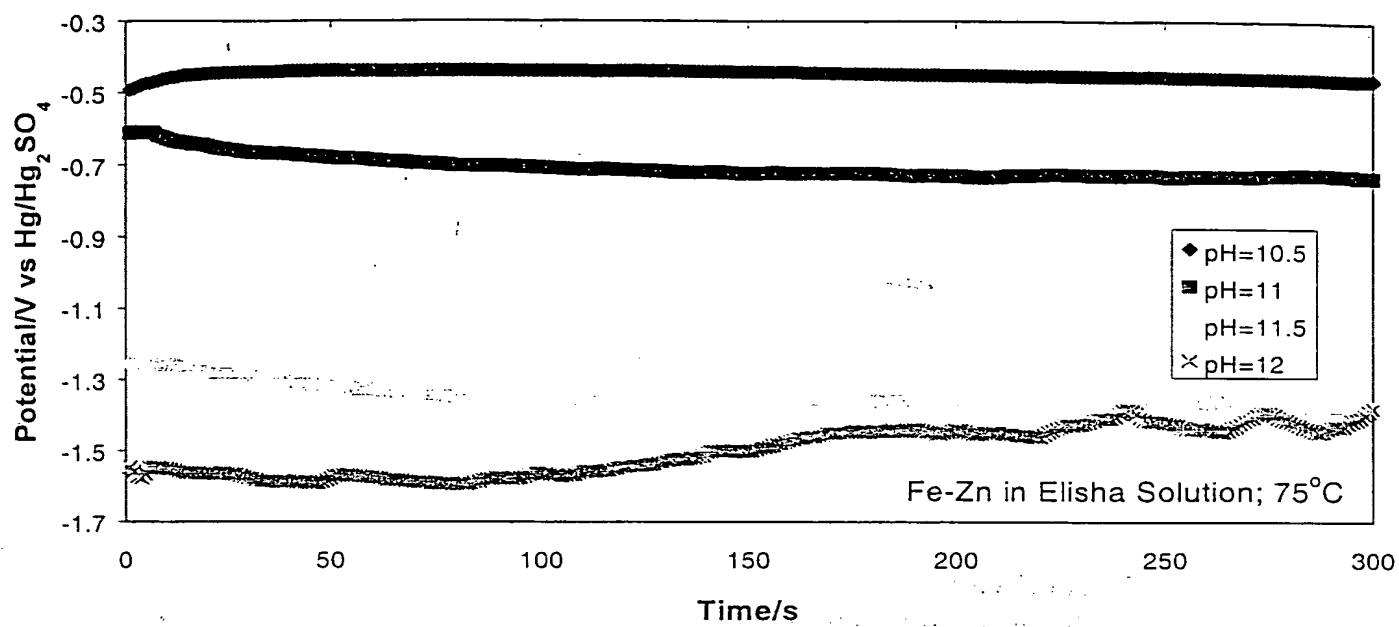


Figure 5: Open Cirrcut Potential

5  
10  
15  
20  
25

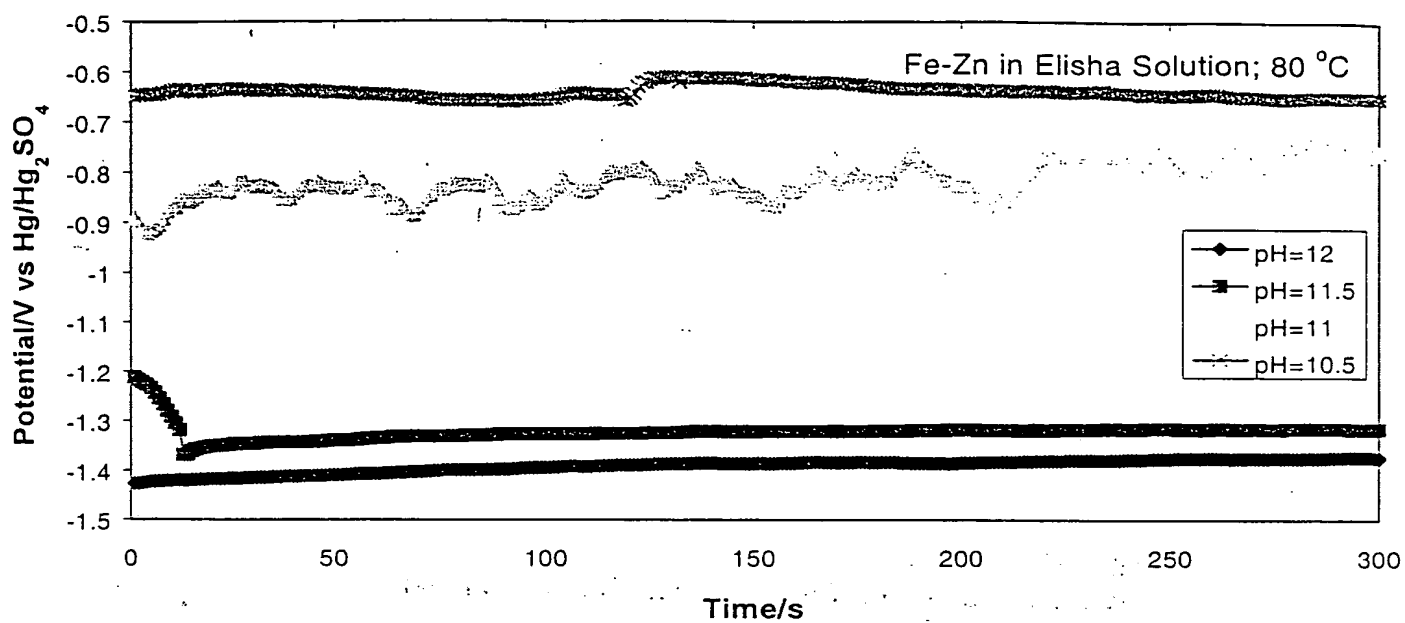


Figure 6: Open Circuit Potential

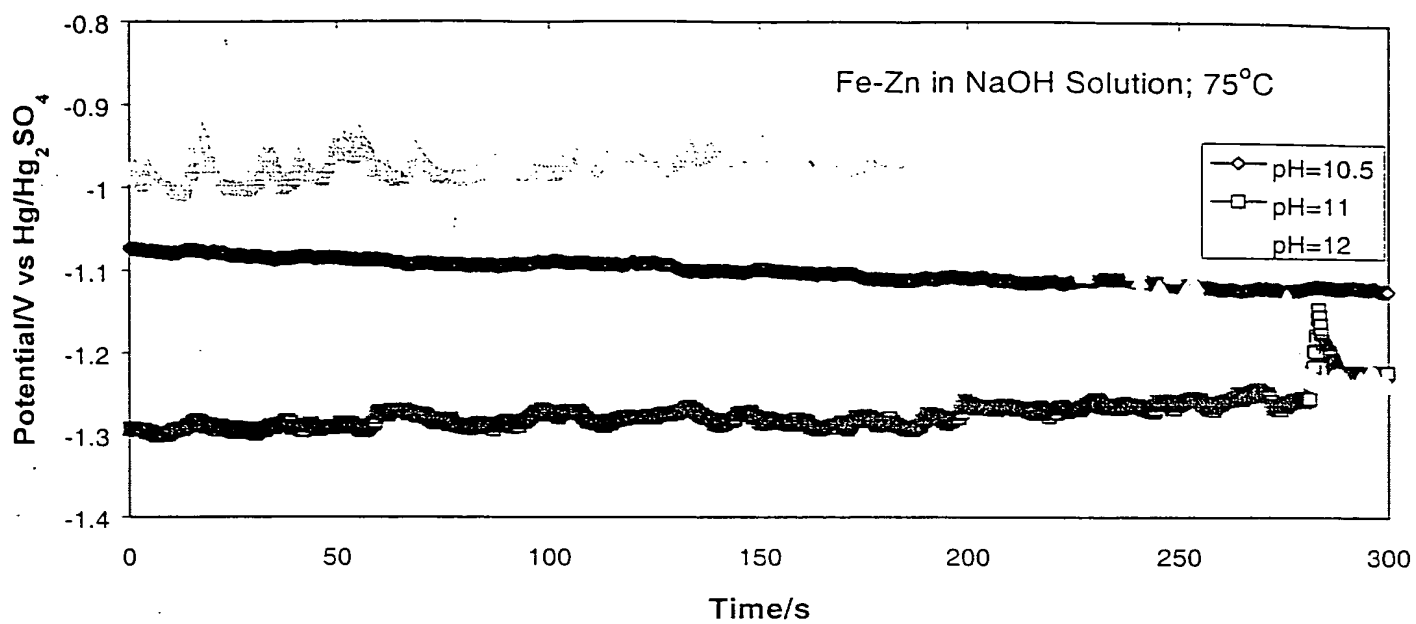
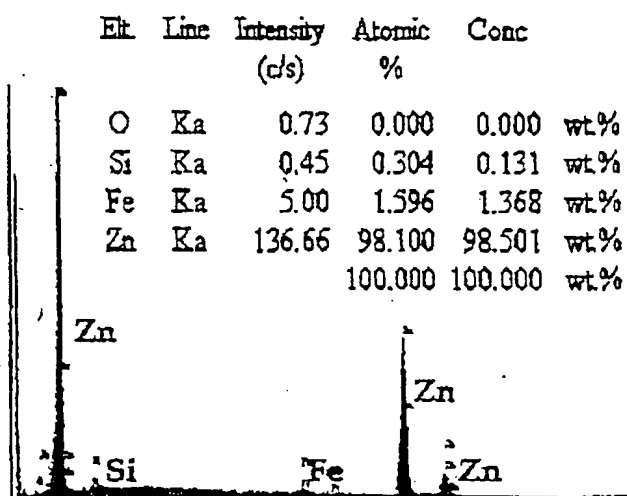


Figure7: Open Circuit Potential



# SEM & EDAX Analysis of Samples Rinsed Immediately and Rinsed Later

## Rinsed Immediately



Magnification - 1000 X

## Rinsed Later

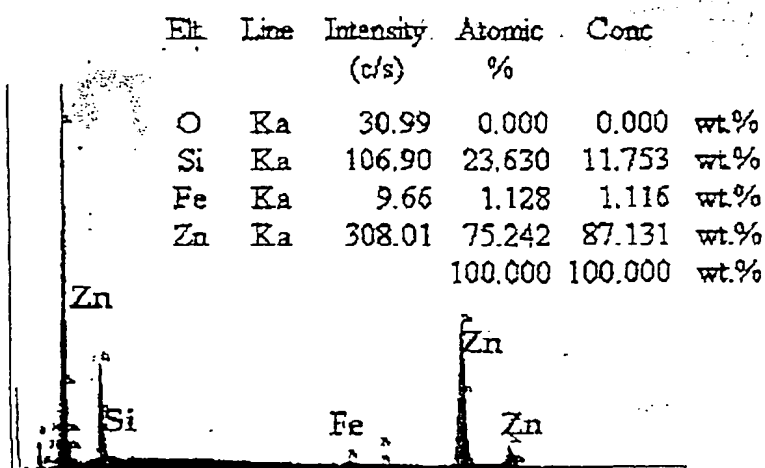
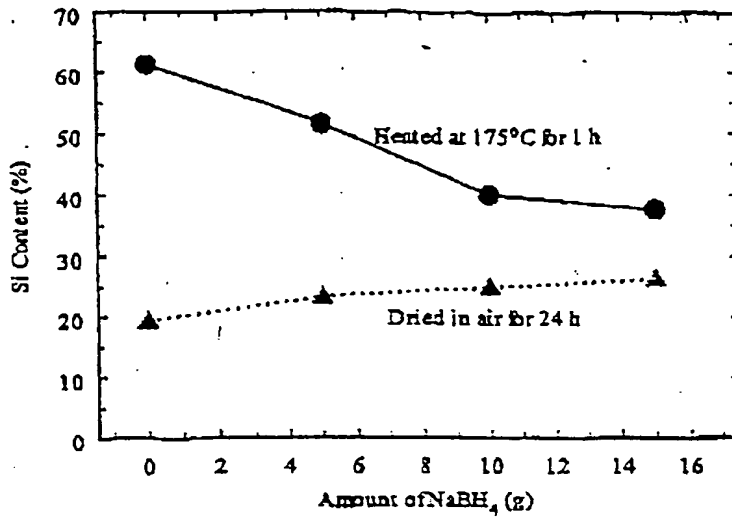


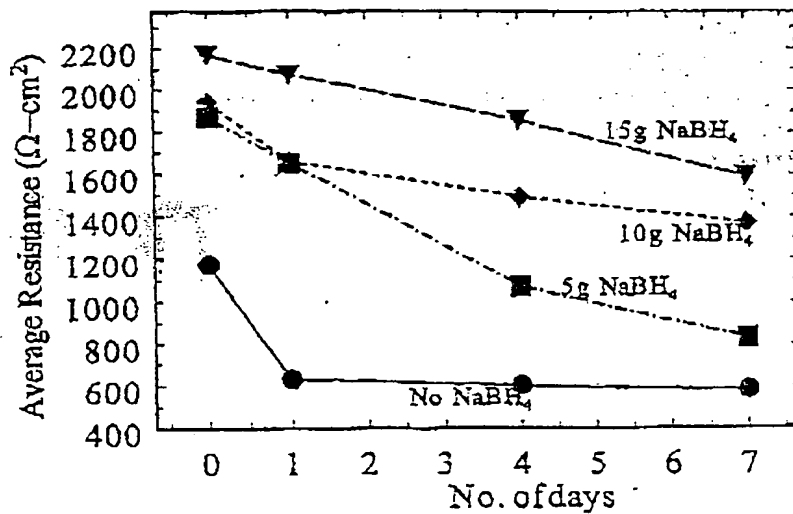
Fig. 8

**Comparison of Si Content for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride**



**Fig. 9**

**Drop in Corrosion Resistance for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride**  
 Samples were dried in air for 24 hours and left in water for 1 week



**Fig. 10**

**Drop in Corrosion Resistance for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride**  
 Samples were dried at 175° C for 1 hour and left in water for 1 week

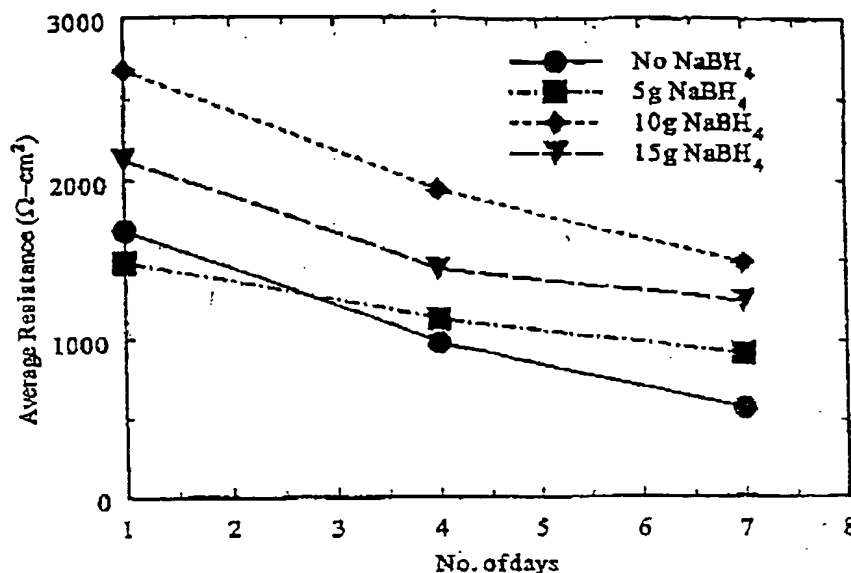


Fig. 11

**CVs for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride**  
 Samples were dried in air for 24 hours

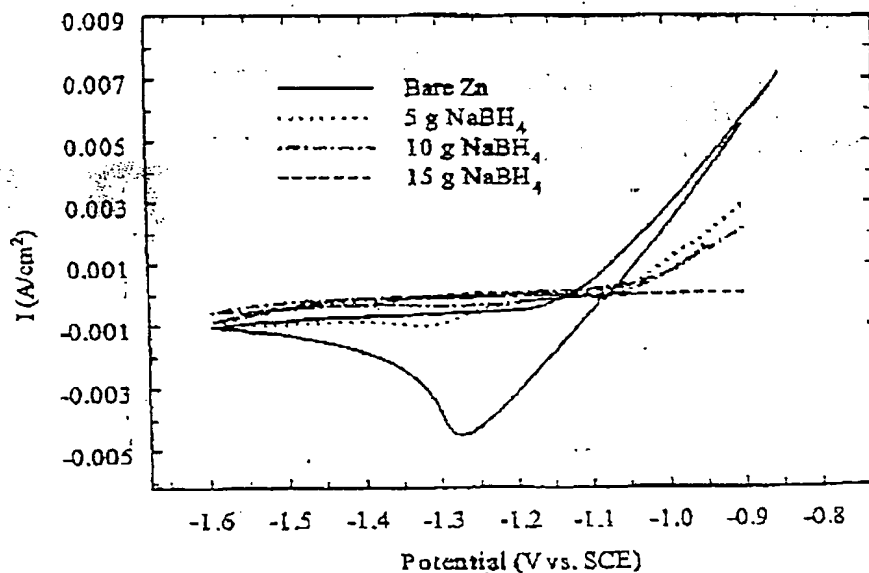


Fig. 12

Inhibiting Efficiency obtained from CVs for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride  
Samples were dried in air for 24 hours

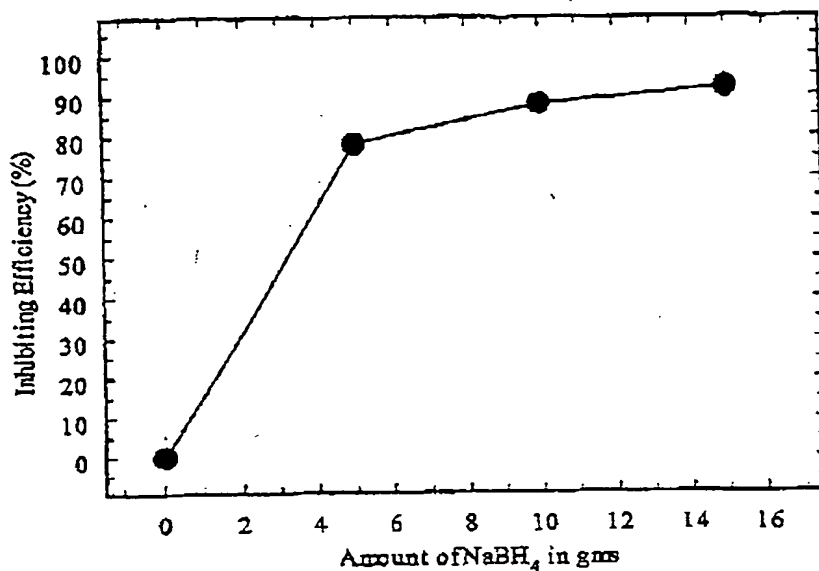


Fig. 13

CVs for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride  
Samples were heated at  $175^\circ\text{C}$  for 1 hour

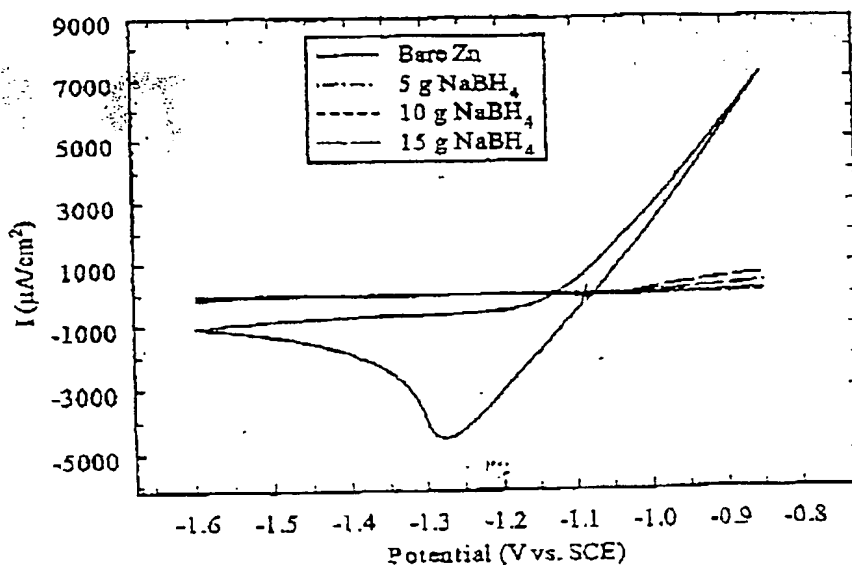
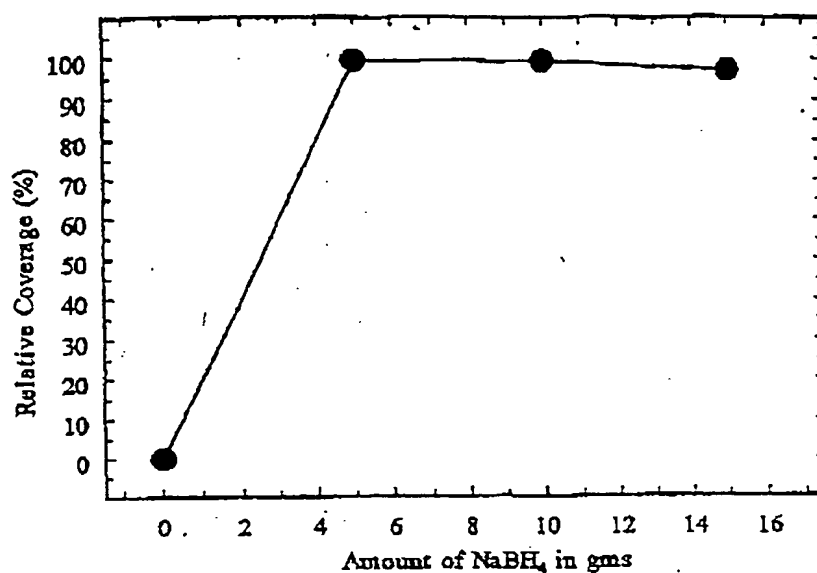


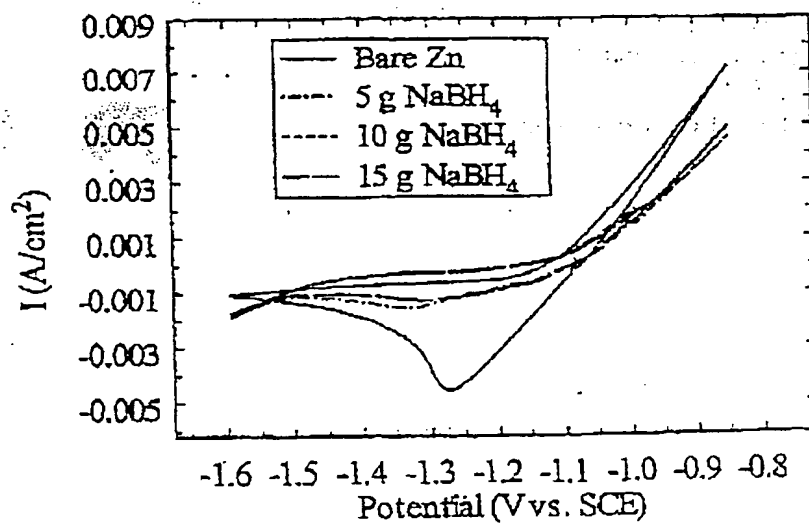
Fig. 14

**Inhibiting Efficiency obtained from CVs for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride**  
**Samples were heated at 175° C for 1 hour**



**Fig. 15**

**CVs for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride**  
**Samples were dried in air for 24 hours and left in water for 1 week**



**Fig. 16**

Change in the Inhibiting Efficiency for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride  
 Samples were dried in air for 24 hours and left in water for 1 week

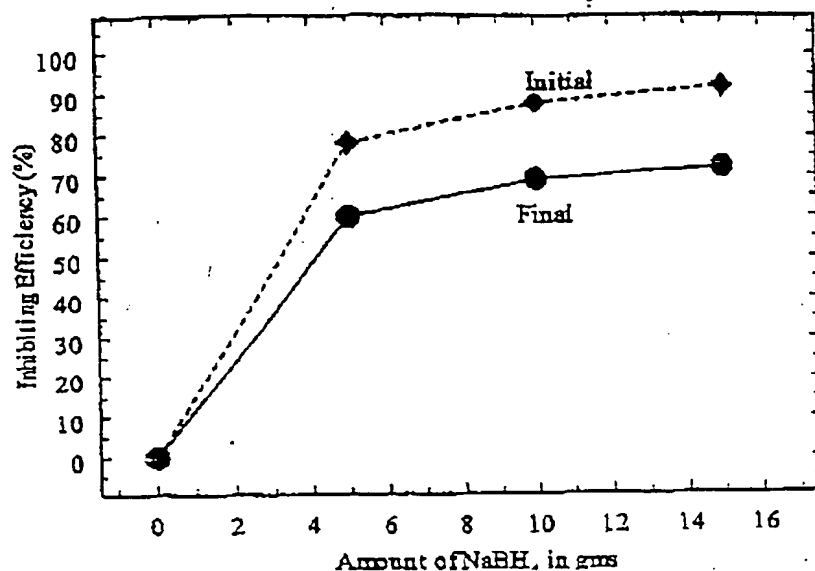


Fig. 17

CVs for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride  
 Samples were dried at 175° C for 1 hour and left in water for 1 week

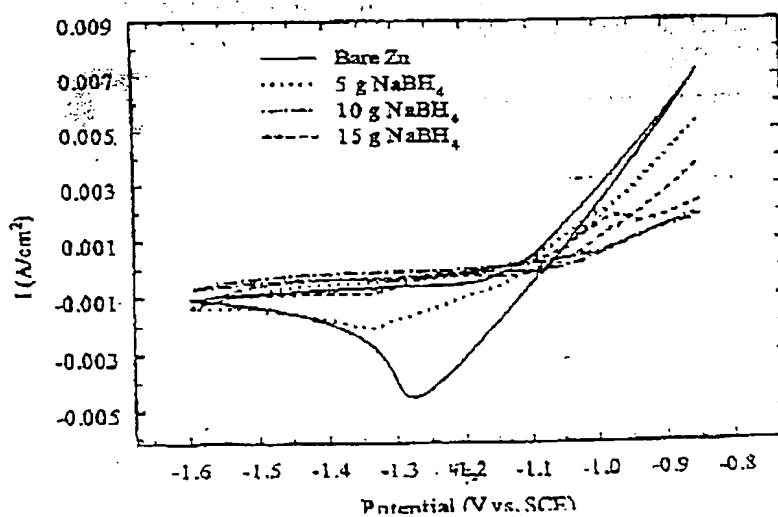


Fig. 18

Change in the Inhibiting Efficiency for samples mineralized in 1:3 PQ solution with no current and with different amounts of Sodium Borohydride  
 Samples were dried at 175° C for 1 hour and left in water for 1 week

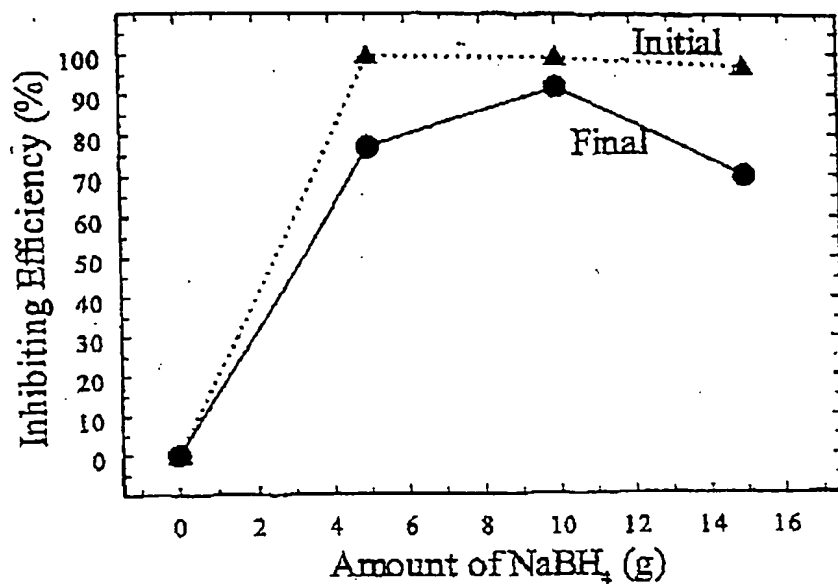
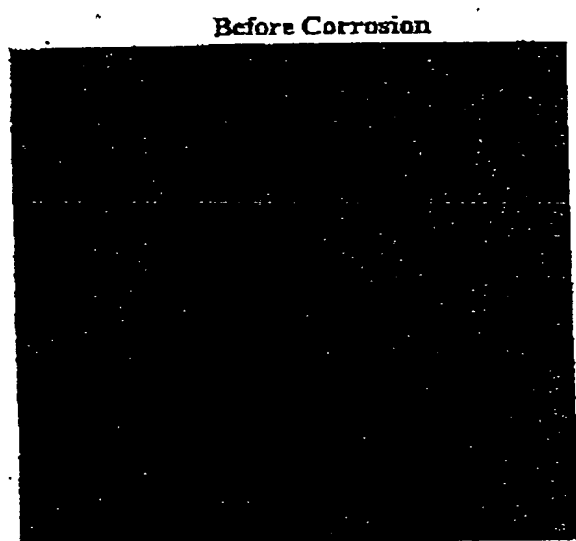


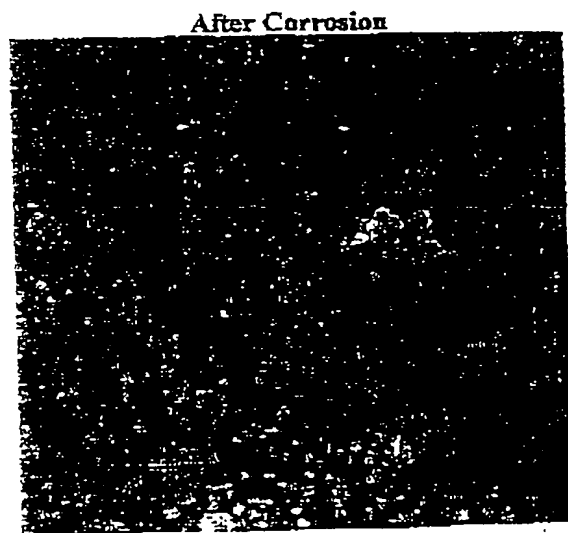
Fig. 19

Change in Morphology for sample mineralized in 1:3 PQ solution with no current and with 10 g/L of Sodium Borohydride  
 Samples were heated at 175° C for 1 hour



2 μm

Magnification: 2000 X



Magnification: 500 X

Fig. 20

Change in Si concentration for samples mineralized in 1:3 PQ solution  
with no current and with different amounts of Sodium Borohydride  
Samples were dried in air for 24 hours and left in water for 1 week

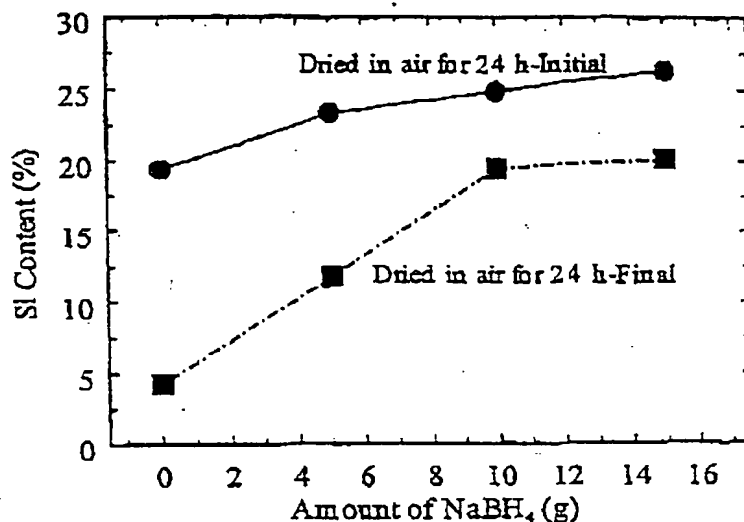


Fig. 21

Change in Si concentration for samples mineralized in 1:3 PQ solution  
with no current and with different amounts of Sodium Borohydride  
Samples were dried in air for 24 hours and left in water for 1 week

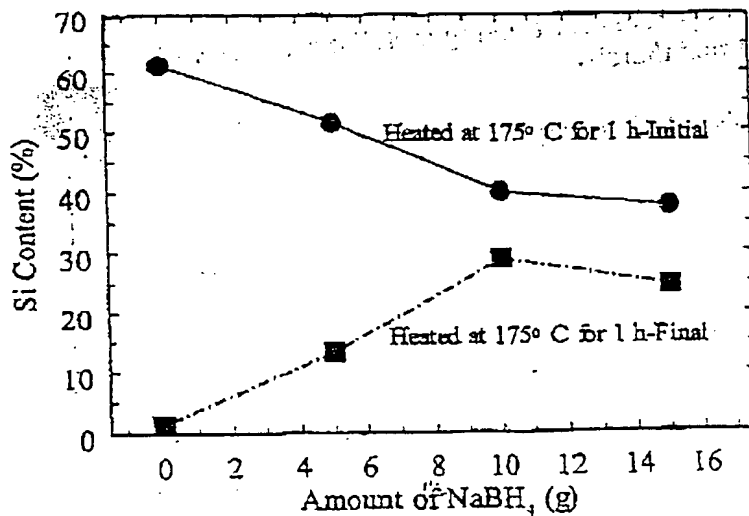


Fig. 22